



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,278	08/06/2003	Daniel Attias	1263-03	1362

35811 7590 12/01/2006  
IP GROUP OF DLA PIPER US LLP  
ONE LIBERTY PLACE  
1650 MARKET ST, SUITE 4900  
PHILADELPHIA, PA 19103

EXAMINER

BOWERS, NATHAN ANDREW

ART UNIT PAPER NUMBER

1744

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/635,278	<b>Applicant(s)</b> ATTIAS, DANIEL	
	<b>Examiner</b> Nathan A. Bowers	<b>Art Unit</b> 1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>103103</u> . | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1744

## DETAILED ACTION

### *Priority*

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in France on 09 February 2001. It is noted, however, that applicant has not filed a certified copy of the France 01/01779 application as required by 35 U.S.C. 119(b).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1) Claims 1, 2 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kureshy (US 5192506) in view of Togawa (US 5348883).

With respect to claims 1, 2, 8, 9 and 11, Kureshy discloses an incubator comprising a substantially airtight heated chamber (Figure 2:36) equipped with a door (Figure 8:302 and Figure 9:320). This is described in column 4, lines 21-43 and column 12, lines 60-62. Multiple culture plates (Figure 1:22) comprising many wells are placed in the heated chamber. A medium source (Figure 2:66) is provided and communicates with a duct opening (Figure 2:70) above a selected well in a desired culture plate. Specifically, the duct opening is a pipette capable of displacing medium from one well in the culture plates to other wells in the culture plates. This is described in column 4, line 44 to column 5, line 41. Column 7, lines 9-39 state that the operation of the pipette is regulated by a control means. Kureshy, however, does not disclose that a means is associated with the heated chamber to remove organisms from the wells and to put the organisms in another well.

Togawa discloses a device for selecting and transporting cells. Column 2, lines 10-68 and column 5, line 64 to column 6, line 45 state that designated cells are removed from a container comprising a first culture medium, and are then transported to

selected wells of a microtiter plate that contain a second culture medium. Togawa teaches that a capillary pick up member (Figure 6:330 is used to transport cells in this way. Column 1, lines 52-55 state that it is additionally known in the art to move cells using a glass tube via suction.

Kureshy and Togawa are analogous art because they are from the same field of endeavor regarding incubation systems.

At the time of the invention, it would have been obvious to utilize a means capable of transporting microorganisms between various culture wells in the incubator disclosed by Kureshy. In column 3, line 67 to column 4, line 42, Togawa indicates that it is desirable to use a cell transportation means during incubation in order to isolated desired cells for further analysis. Togawa demonstrates that it is known in the art to utilize an optical detection system in conjunction with the transportation means to first identify cells of interest, and then move them to a separate well filled with desired reagents, buffers, and/or growth agents.

With respect to claim 10, Kureshy and Togawa disclose the apparatus set forth in claim 1 as set forth in the 35 U.S.C. 103 rejection above. Additionally, Kureshy teaches in column 12, lines 32-45 that the incubator comprises sensors enabling autoregulation and monitoring of the atmosphere inside the heated chamber.

2) Claims 1-5 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greenberger (US 20020155487) in view of Togawa (US 5348883).

With respect to claims 1, 2, 8, 9 and 11, Greenberger discloses an incubator comprising a substantially airtight heated chamber (Figure 1:10) equipped with a door (Figure 2:52) to access the heated chamber. A culture plate (Figure 2:96) with multiple wells is placed in the heated chamber. This is described in paragraphs [0026]-[0030]. Paragraphs [0031] and [0070]-[0072] teach that the incubator comprises a mechanism for automatically dispensing and aspirating media to and from various wells in the culture plate based on cell behavior. Paragraphs [0107]-[0124] disclose various methods in which medium is moved between wells in response to color changes observed in the cell solution. However, Greenberger only discloses the movement of cell solution between wells, and not the transfer of the cells themselves. Accordingly, Greenberger does not expressly disclose a means for removing cells from a well and transferring the cells to another well.

Togawa discloses a device for selecting and transporting cells. Column 2, lines 10-68 and column 5, line 64 to column 6, line 45 state that designated cells are removed from a container comprising a first culture medium, and are then transported to selected wells of a microtiter plate that contain a second culture medium. Togawa teaches that a capillary pick up member (Figure 6:330) is used to transport cells in this way. Column 1, lines 52-55 state that it is additionally known in the art to move cells using a glass tube via suction.

Greenberger and Togawa are analogous art because they are from the same field of endeavor regarding incubation systems.

At the time of the invention, it would have been obvious to utilize a means capable of transporting microorganisms between various culture wells in the incubator disclosed by Greenberger. In column 3, line 67 to column 4, line 42, Togawa indicates that it is desirable to use a cell transportation means during incubation in order to isolated desired cells for further analysis. Togawa demonstrates that it is known in the art to utilize an optical detection system in conjunction with the transportation means to first identify cells of interest, and then move them to a separate well filled with desired reagents, buffers, and/or growth agents.

With respect to claims 3-5, Greenberger and Togawa disclose the apparatus set forth in claim 1 as set forth in the 35 U.S.C. 103 rejection above. Furthermore, Greenberger discloses in paragraphs [0028], [0058], [0059], [0109] and [0110] that an imaging mechanism and a microscope mechanism are disposed within the incubator in order to detect color changes in the culture medium containing an indicator. A display screen (Figure 1:40) is placed exteriorly of the incubator in order to provide an image of the cells.

With respect to claim 10, Greenberger and Togawa disclose the apparatus set forth in claim 1 as set forth in the 35 U.S.C. 103 rejection above. In addition, Greenberger states in paragraph [0060] that temperature is regulated in the incubator using a thermocouple.

With respect to claim 12, Greenberger and Togawa disclose the method set forth in claim 11 as set forth in the 35 U.S.C. 103 rejection above. Additionally, Greenberger discloses in paragraphs [0028], [0059], [0109] and [0110] that an imaging mechanism and a microscope mechanism are disposed within the incubator in order to detect color changes in the culture medium containing an indicator. As previously discussed, Togawa teaches in column 3, line 67 to column 4, line 42 that it is beneficial to transfer cells from one well to another in response to detected changes in the culture medium.

3) Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greenberger (US 20020155487) or Kureshy (US 5192506) in view of Togawa (US 5348883) each as applied to claim 1, and further in view of Ohishi (EP 1199569).

The combination of Greenberger and Togawa and the combination of Kureshy and Togawa each disclose the apparatus set forth in claim 1 as set forth in the 35 U.S.C. 103 rejections above. These stated combinations, however, do not disclose a conveyor belt capable of moving culture plates in a stepwise fashion.

Ohishi discloses a sample analysis system in which a variety of multi-well containers are moved to different analysis stations using an endless conveyor belt (Figure 1:20) driven by a roller and rotated by a stepping motor. Operation of the belt is regulated by a controller. This is disclosed in paragraph [0025].

Greenberger, Kureshy, Togawa and Ohishi are analogous art because they are from the same field of endeavor regarding biochemical analysis systems.



At the time of the invention, it would have been obvious to utilize a conveyor belt in either of the apparatuses set forth by Greenberger and Kureshy. Both Greenberger and Kureshy already express an interest in positioning culture plates during cell and fluid transfer operations using an automated device. The use of a conveyor belt is considered to be functionally equivalent to the use of a turntable (Kureshy) and the use of a x-y motorized stage (Greenberger).

4) Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Greenberger (US 20020155487) in view of Togawa (US 5348883) as applied to claim 11, and further in view of Masterson (US 5645800).

Greenberger and Togawa disclose the method set forth in claim 11 as set forth in the 35 U.S.C. 103 rejection above, however do not teach that cells are transferred to new wells when the optical density of the growth medium exceeds a specified threshold.

Masterson discloses an incubation system in which a plurality of cell plates each containing multiple wells are accommodated. Column 6, lines 5-14 and column 8, line 66 to column 9, line 10 state that a photometric reader is utilized to measure turbidity changes of the medium in the wells.

Greenberger, Togawa and Masterson are analogous art because they are from the same field of endeavor regarding incubation systems.

At the time of the invention, it would have been obvious to adjust the method proposed by Greenberger and Togawa in order to transfer cells between various wells in response to observed changes in optical density. As evidenced by Masterson, optical

Art Unit: 1744


density is known in the art as a variable useful in determining conditions within a cell culture. Absent a showing of criticality, it would have been obvious to move the cells between wells according to the method set forth by Greenberger and Togawa in response to changes in any cell growth parameter that is known in the art.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan A. Bowers whose telephone number is (571) 272-8613. The examiner can normally be reached on Monday-Friday 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



GLADYS JP CORCORAN  
SUPERVISORY PATENT EXAMINER